

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Xu, Frank Y., et al.  
Appl. No.: 10/789,319 GPAU.: 1712  
Filed: 02/27/2004 Examiner: Marc S. Zimmer  
Docket No.: P121-63-03 Conf. No.: 9202  
For: Composition for an Etching Mask Comprising a Silicon-  
Containing Material

---

DECLARATION OF FRANK Y. XU

I, Frank Y. Xu, declare as follows:

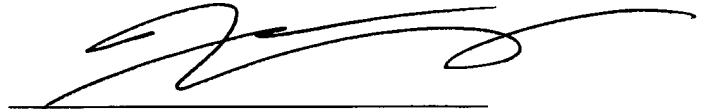
1. At all time relevant herein I have been over the age of eighteen years.
2. I am presently employed as a Senior Material Scientist with Molecular Imprints, Inc. of Austin, Texas having nearly twenty years experience in polymer chemistry, I previously held positions at Chorum Technology of Richardson, Texas from 2000-2003 as the Polymer Group Manager and at 3M of Austin, Texas as a Research Specialist from 1994-2000 wherein I worked in research and development of high-performance polymeric materials for electronic applications.
3. I received a doctorate of philosophy in chemistry from the University of Massachusetts at Amherst, Department of Polymer Science and Engineering, and have authored over twenty articles, the latest being entitled DEVELOPMENT OF IMPRINT MATERIALS FOR THE STEP AND FLASH IMPRINT LITHOGRAPHY PROCESS, and published at the SPIE Microlithography Conference, February 2004. I also have been listed as an inventor in various patents, including United States patent numbers 6,664,318; 6,252,237; and 6,204,343.
4. I make this statement in support of an Amendment, which I am informed and believe will be filed herewith in the United States Patent application identified above.
5. I have reviewed the patent application identified in paragraph 4 and submit that a person of ordinary skill in the art reading the patent application would understand that, as of the filing date of the above-identified patent application, silsesquioxanes are a class of compounds with

a general repeating unit having the formula  $\text{RSiO}_{1.5}$ , as is evidenced by the print of a webpage from the Aldrich<sup>®</sup> website. See EXHIBIT 1 attached hereto

6. A person of ordinary skill in the art would understand that included within the genus of solid silicon-containing component are silicone resins and silsequioxanes and that each of these species is characterized by having mono-organo siloxane structures. See slide 3 of EXHIBIT 2 attached hereto. This differs from the diorgano siloxane components of the cited prior art, which are fluids. As a result of the mono-organo siloxane structure, the silicon-containing component is solid and outgassing of the silicon species contained therein is substantially reduced, compared to the diorgano siloxane structures. See EXHIBIT 3, attached hereto.

The undersigned declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application and any patent that may issue therefrom.

DATE: 9/21/2005



Frank Y. Xu